

FIG. 1

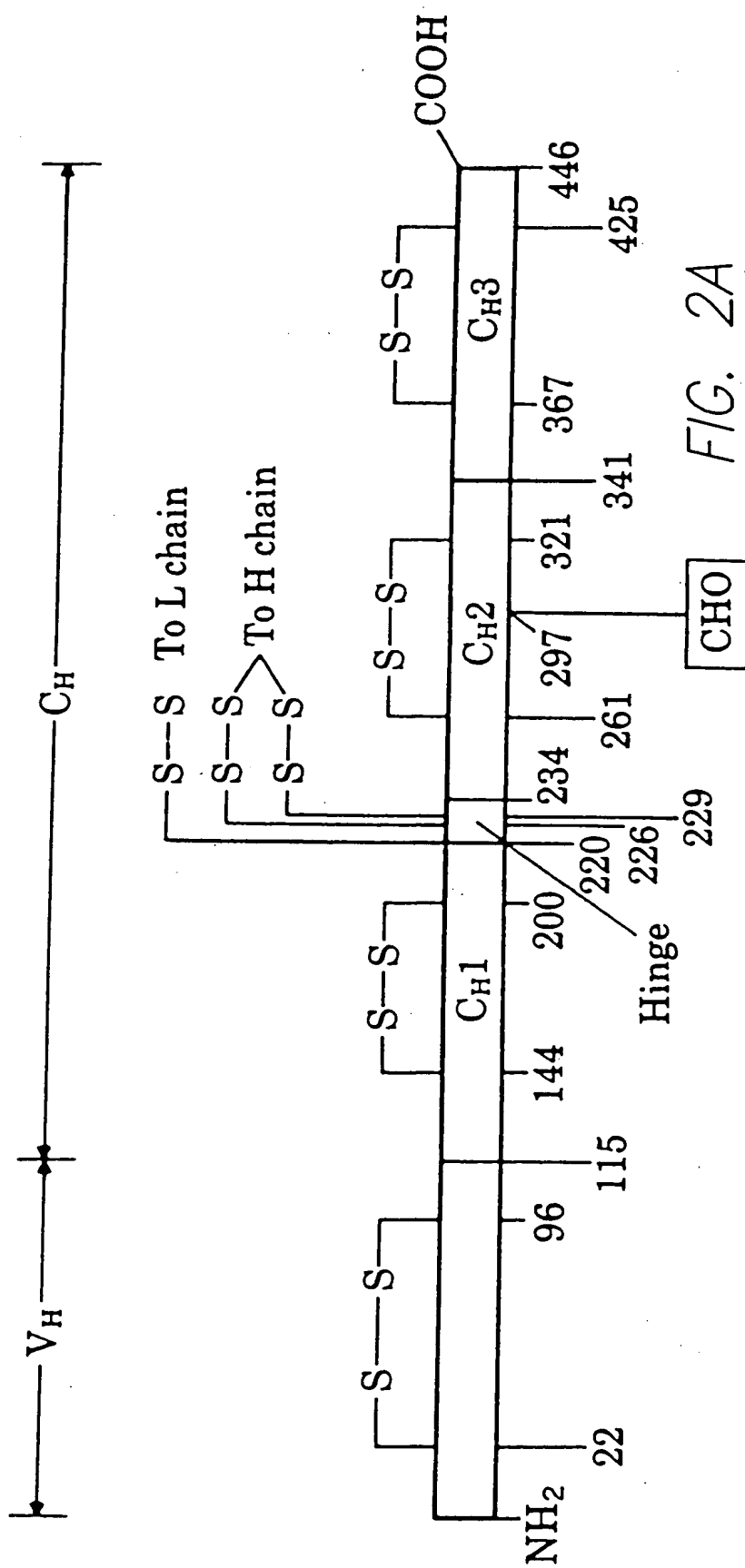


FIG. 2A

FIG. 2A-1

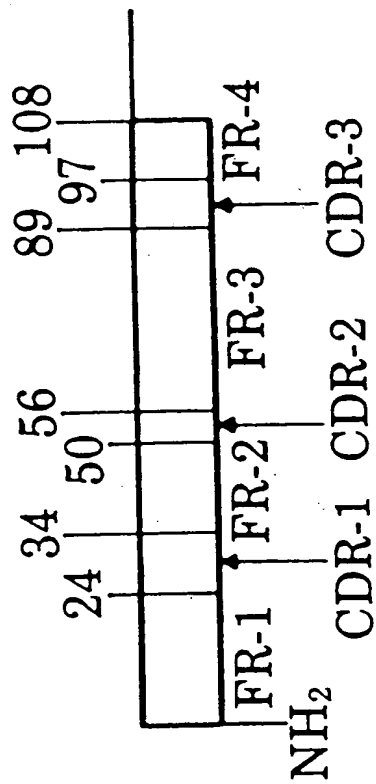
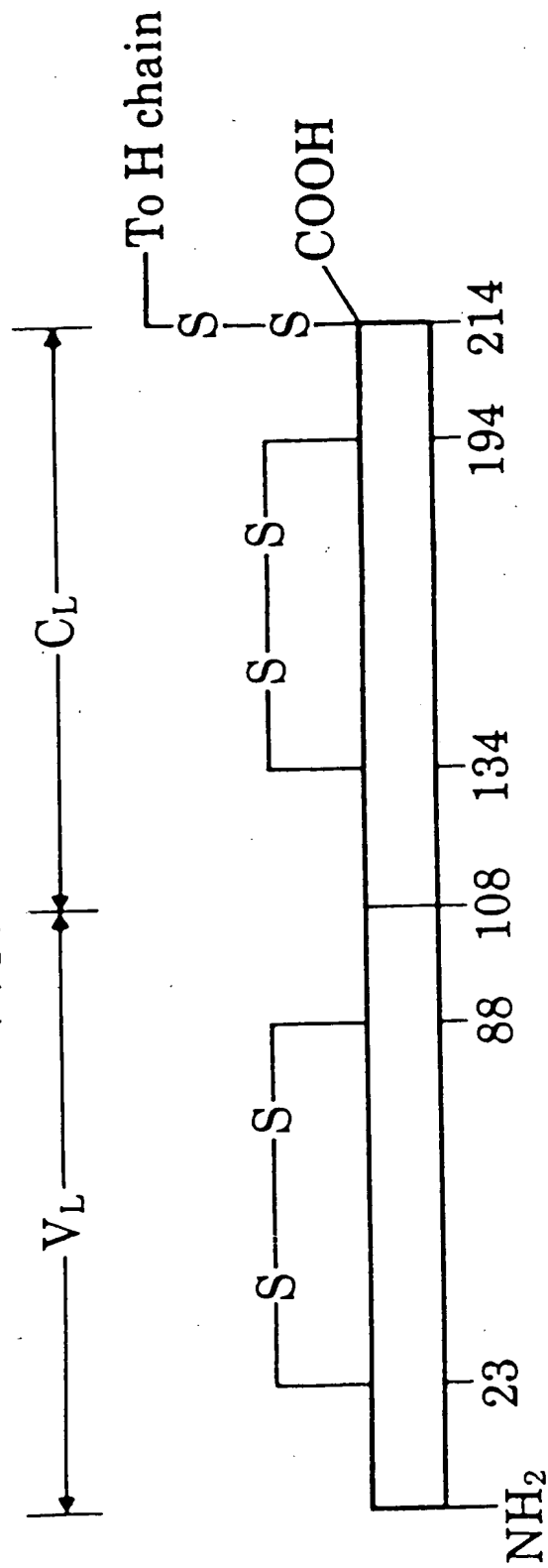


FIG. 2A-2

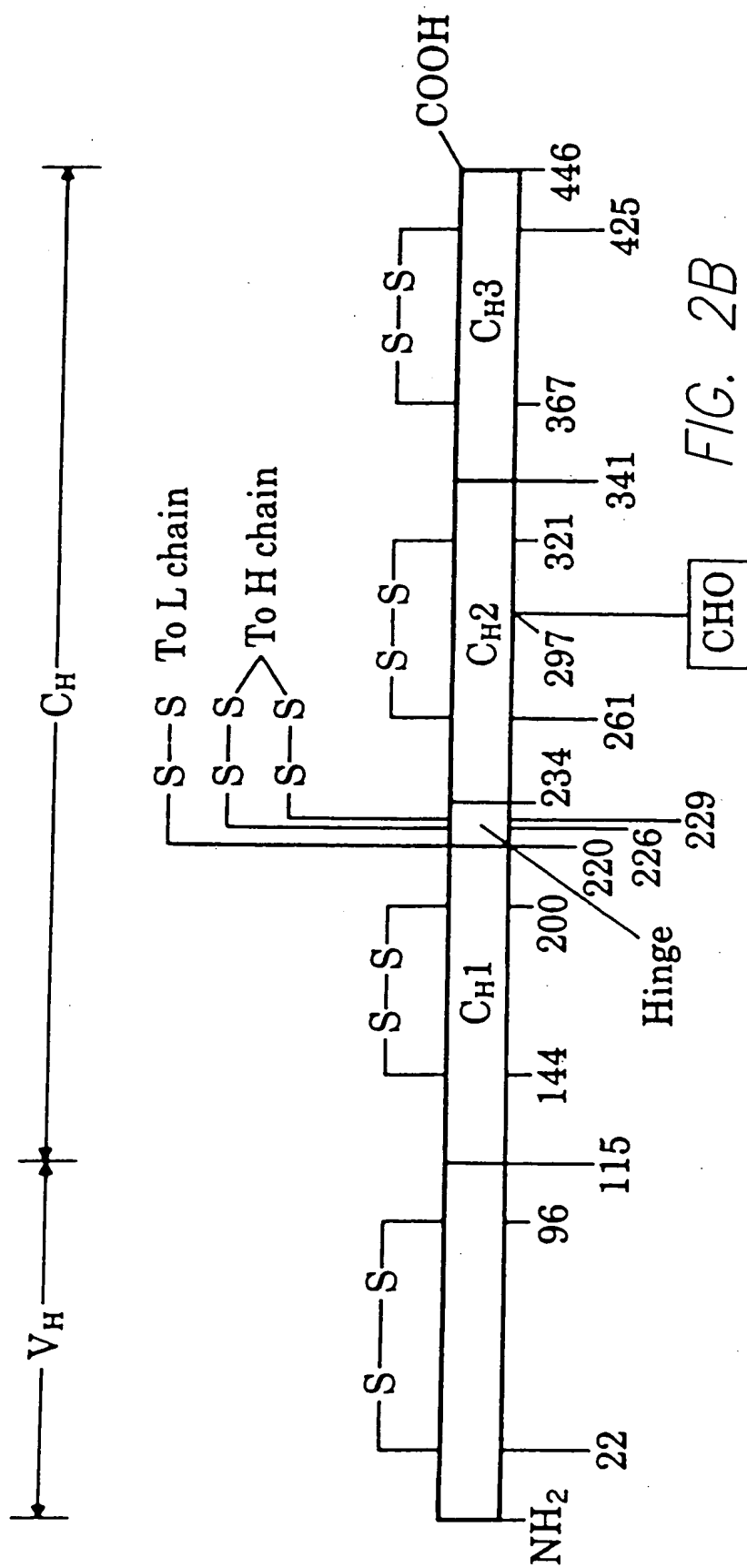


FIG. 2B

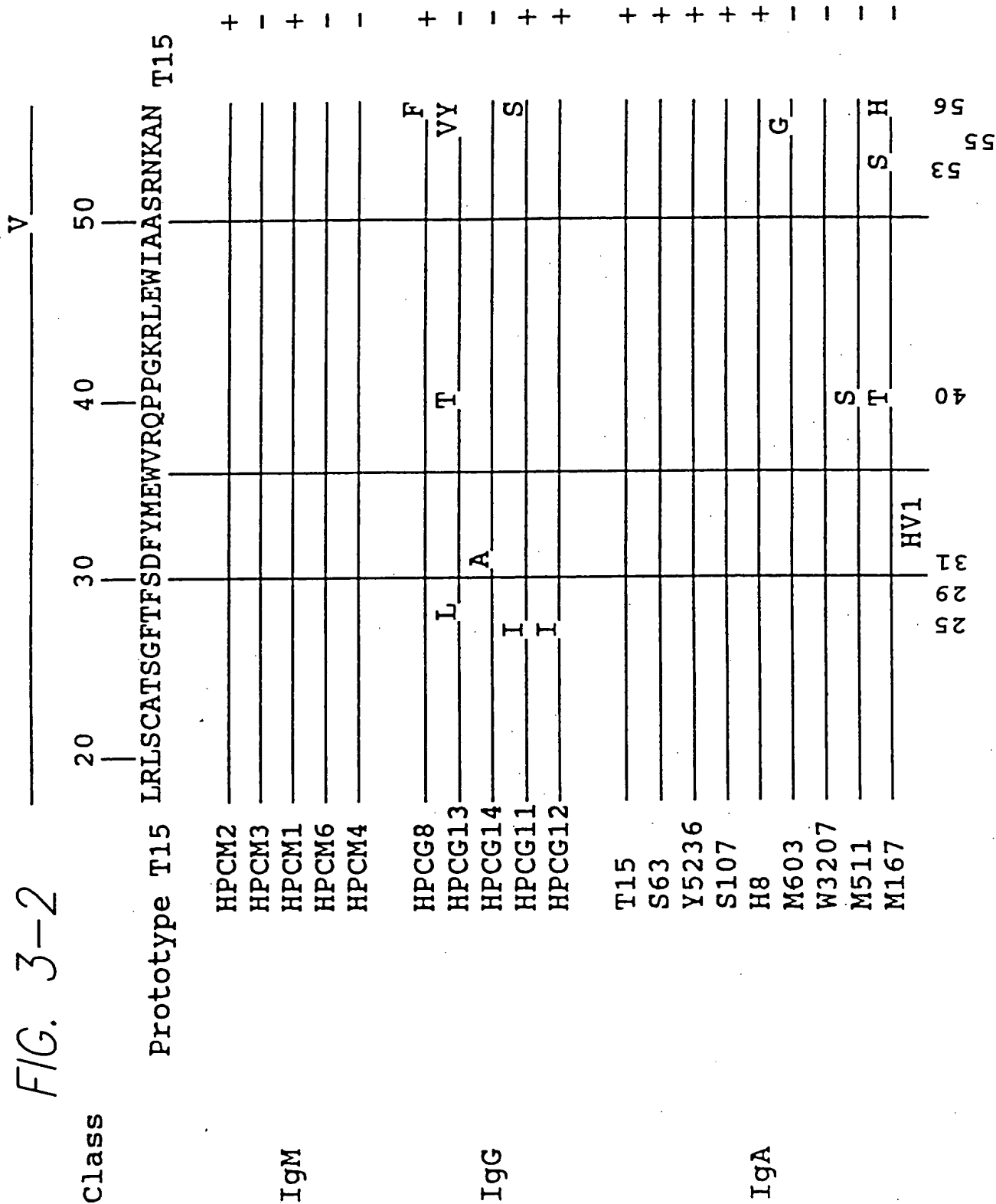
FIG. 3-1

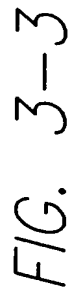
Class	1	10	V
	1		
	Prototype T15 EVKLVEGGGLVQPPGGS T15		
IgM	HPCM2		+
	HPCM3		-
	HPCM1		+
	HPCM6		-
	HPCM4		-
IgG	HPCG8		+
	HPCG13		-
	HPCG14		-
	HPCG11		+
	HPCG12		+
IgA	T15		+
	S63		+
	Y5236		+
	S107		+
	H8		+
	M603		+
	W3207		-
	M511		-
	M167		-
		V	-





FIG. 3-2





Class

Δ

60 70 80 90

Prototype T15 DYTTEYSASVKGRFIVSRDTSQSIYLYQMNALRAEDTAI T15

HP CM2

НПСМЗ

НПСМ1

HP CM6

HP CM4

HPCG8

HPCG13

HPCG14

HPCG11

HPCG12

T15

563

Y5236

5107

8H

M603 K

W3207

M511

M167

R

HV2

65

57

Δ

30

8
8.

11

5

6

+ | + | | + | | + + + + + + + | | | |

IqA

IqG

IgM



FIG. 3-4

Class	V	D	J	100	110	120	
	YYCARD	YYGSS	YWYFDVWGAGTTVTVSS				T15
			Idiotype				
IgM	HPCM2						+
	HPCM3						-
	HPCM1						+
	HPCM6	DYP H					-
	HPCM4	F_RYD G					-
IgG	HPCG8	R					+
	HPCG13	A					-
	HPCG14	V_YD					-
	HPCG11						+
	HPCG12						+
IgA	T15						+
	S63						+
	Y5236						+
	S107						+
	H8	N					+
	M603	N	T				-
	W3207	N	KYD L_V				-
	M511	GD					-
	M167	T	AD_N_YFG				-
			HV3				-

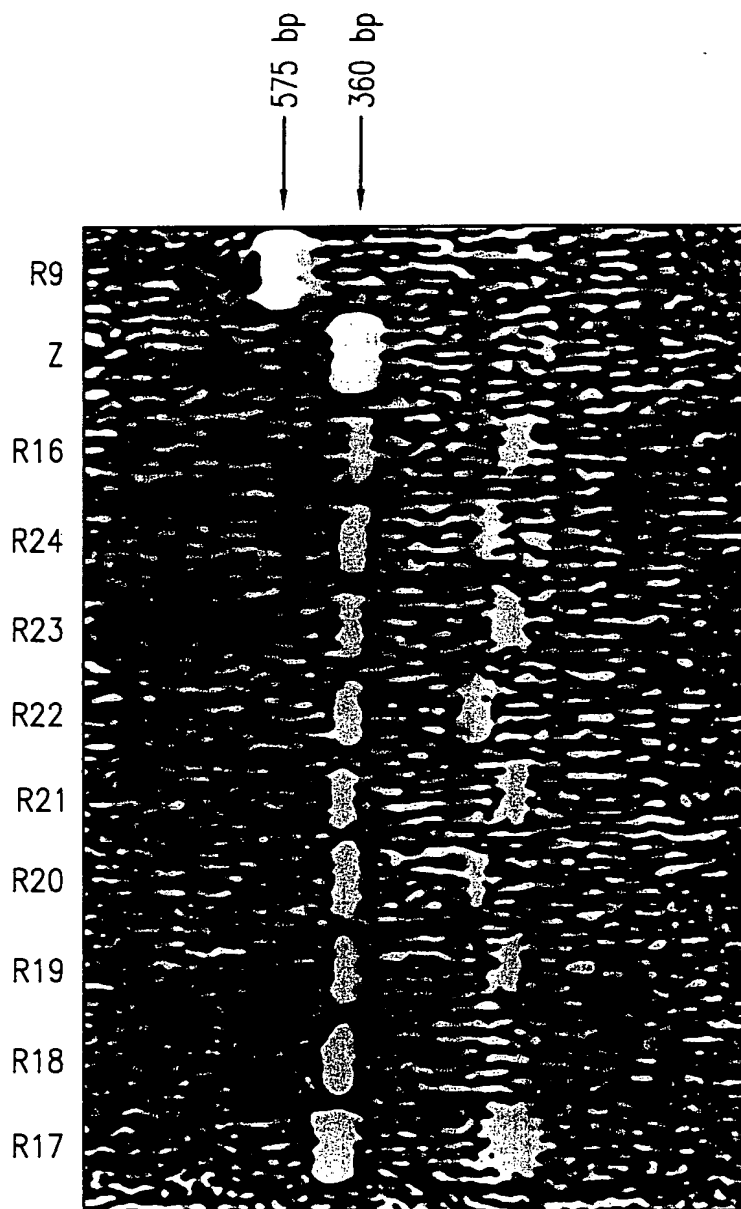


FIG. 4

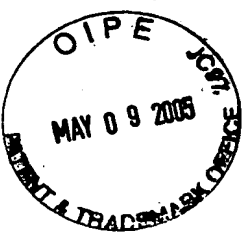


FIG. 5

Subclass I (A)

#L39 CTCGAGTCAGGACCTGGCCCTCGTGAAACCTTCTCAGTCTCTGTCTCTCACCTGCTCTGTCACTGGCTACTCCATCACCAGTGCCTATTACTGGAACTGGATCCGGGCAGTT

Subclass II (A)

#L11 CTCGAGTCTGGGCTTAACTGGCAAAACCTGGGGCTCAGTGAAGATGTCTGCAAGGCTTCTGGCCACACCTTGACTAGTACTGGATACACTGGGTAAAnAGAGGCC
#L03 CTCGAGTCTGGACCTnAGCTGGTAAAGCCTGGGGTTTCAGTGAAGATGTCTGCAAGGCTTCTGGATACACATTCACnAGCTATGTATACACTGGGTGAAGCAGAAGCCT
#L32 CTCGAGTCTGGACCTGAACCTGGTAAAGCCTGGGACTTCAGTGAAGATGTCTGCAAGGCTTCTGGATACACATTCACCAGCTATGTATAGCGCTGGGTGAAGCAGAAGGCC

Subclass II (B)

#L37 CTCGAGTCAGGGGCTGAACCTGGTGAAGCCTGGGGTTTCAGTGAAGTGTCTGCAAGGCTTCTGGCTACACCTTCACnAGCTACTATATGTACTGGGTGAAGCAGAAGGCC
#L06 CTCGAGTCTGGGGCTAAGCTGGTAAGGCCCTGGAGCTTnAGTnAAGCTGTCTGnAGGGCTTCTGGCTACTCCTTCACnAGCTACTGGATGAACCTGGGTGAAGCAGAAGGCC

Subclass II (C)

#L33 CTCGAGTCTGGGGCTGAGCTGGTGAGGCCCTGGAGCTTCAGTnAAGCTGTCTGCAAGGCTCTCGTACTCCTTCACCAGCTCCCTGATAAATGGGTGAAGCAGAAGGCCCTGG

Subclass III (B)

#L36 CTCGAGTCAGGAGGTGGCTGGTGAGCCTGGAGGATCCCTGAAACTCTCTGTGCAGCCTCAGGATTCGATTTnAGnAGATACTGGATGAATGGGTCCGGCAGCTCCA
#L02 CTCGAGTCTGGAGGTGGCTGGTGAGCCTGGAGGATCCCTGAACTCTCCCTGTGCAGCCTCAGGATTCGATTTnAGnAGATAAATGGATGAGTTGGGTTCGGCAGGCTCC
#L31 CTCGAGTCTGGAGGTGGCTGGTGAGCCTGGAGGATCCCTGAAAGTCTCTGTGCAGCCTCAGGATTCGATTTnAGnAGATACTGGATGAGTTGGGTCCGGCAGCTCCA
#L34 CTCGAGTCTGGAGGTGGCTGGTGAGCCTGGAGGATCCCTCAAACTCTCTGTGCAGCCTCAGGATTCGATTTnAGnAGATACTGGATGAGTTGGGTCCGGCAGCTCCA
#L50 CTCGAGTCAGGAGGTGGCTGGTGAGCCTGGAGGAGCCCTGAAACTCTCTGTGCAGCCTCAGGATTCGATTTnAGnAGATACTGGATGAGTTGGGTCCGGCAGCTCCA

Subclass III (C)

#L10 CTCGAGTCTGGGGGAGGCTTAGTnCAGCCTGGAGGGTCCCGGAAACTCTCTGTGCAGCCTCTGGATTCACCTTTnAGnAGTTTTGGAAATGCACCTGGATTCGTACAGGCTCC
#L08 CTCGAGTCTGGGGGAGGCTTAGTnAGCCTGGAGGGTCCCGGAAACTCTCTGTGCAGCCTCTGGATTCACCTTTnAGnAGCTTTTGGAAATGCACCTGGGTACGTACAGGCTC

Subclass V (A)

#L38 CTCGAGTCAGGGGCTGAACCTGGTGAGGCCCTGGGCGTTTCAGTnAAGATGTCTGCAAGGCTTCAGGCTATTCTCTTACCAGCTACTGGATGCACCTGGGTGAACACAGAGGCC

Miscellaneous

#47 CTCGAGTCAGGGGCTGAACCTGGCAAAACCTGGGGCTCAGTAAAGATGTCTGCAAGGCTTCTGGCTACACCTCTCTTCTCTTCTGGCTGCACCTGGATAAAGAGAGCCT
#L35 CTCGAGTCTGGACCTnAGCTGGTGAAGCCTGGGGTTTCAGTTAAATATCTGCAAGGCTTCTGGTTACTCATTTTCTnTCTACTTTTGTGAACCTGGGTGATGCAGAGCCAT
#L48 CTCGAGTCAGGGGCTGAACCTGGTGAAGCCTGGGGTTTCAGTAAGTGTCTGCAAGGCTTCTGGCTACACCTTCACCGGCTACTATATGTACTGGGTGAAGCAGAAGGCGCTGG



FIG. 6A-1

V_H EXPRESSION VECTOR:

SHINE-DALGARNO MET

GGCCGCAAATTCTATTTCAAGGAGACAGTCATAATG
CGTTTAAGATAAAGTTCCTCTGTCAGTATTAC

LEADER SEQUENCE

AAATACCTATTGCCTACGGCAGCCGCT
TTTATGGATAACGGATGCCGTCGGCGA

LEADER SEQUENCE

GGATTGTTATTACTCGCTGCCCAACCAG
CCTAACAATAATGAGCGACGGGTTGGTC

FIG. 6A-2

LINKER

LINKER

NCOI	V _H BACKBONE	XHOI	SPEI
------	-------------------------	------	------

CCATGGCCCAGGTGAAACTGCTCGAGATTTCTAGACTAGT
GGTACCGGGTCCACTTTGACGAGCTCTAAAGATCTGATCA

TyrProTyrAspValProAspTyrAlaSer
TACCCGTACGACGTTCCGGACTACGGTTCTTAATAGAATTCTG
ATGGGCATGCTGCAAGGCCTGATGCCAAGAATTATCTTAAGCAGCT

STOP LINKER



FIG. 6B-1

V_L EXPRESSION VECTOR:

SHINE-DALGARNO

GGCCGCAAATTCTATTTCAAGGAGACAGTCATA
CGTTTAAGATAAAGTTCCTCTGTCAGTAT

MET

LEADER SEQUENCE

ATGAAATACCTATTGCCTACGGCAGCCGCTGGA
TACTTTATGGATAACGGATGCCGTCGGCGACCT

LEADER SEQUENCE

TTGTTATTACTCGCTGCCCAACCAG
ACAATAATGAGCGACGGGTTGGTC

FIG. 6B-2

LINKER

NCOI	V _H BACKBONE
------	-------------------------

CCATGGCCCAGGTGAAACTG
GGTACCGGGTCCACTTTGAC

LINKER

XHOI	SPEI	STOP
------	------	------

CTCGAGAATTCTAGACTAGTTAATAG
GAGCTCTTAAGATCTGATCAATTATCAGCT



FIG. 7

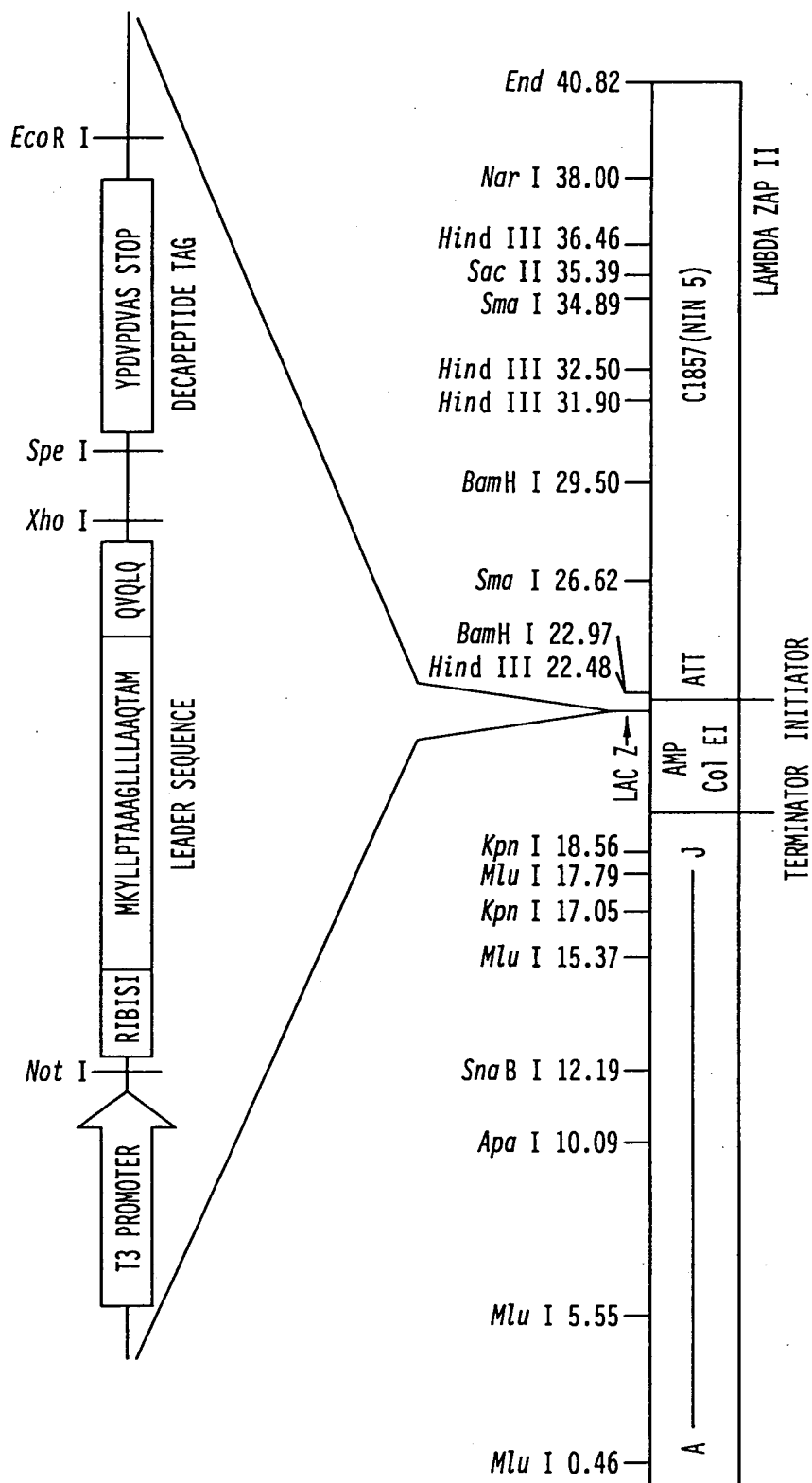


FIG. 8

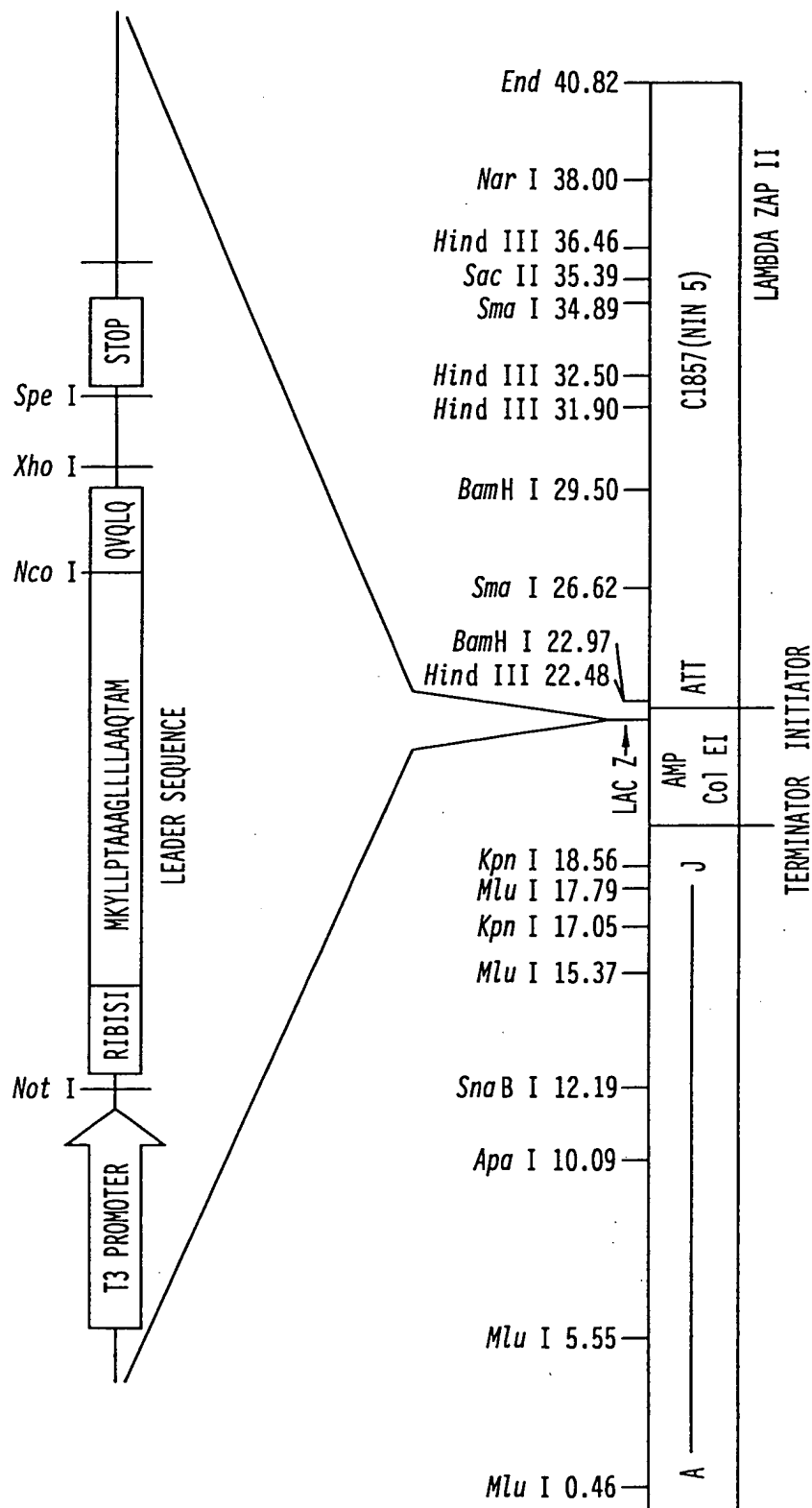




FIG. 9

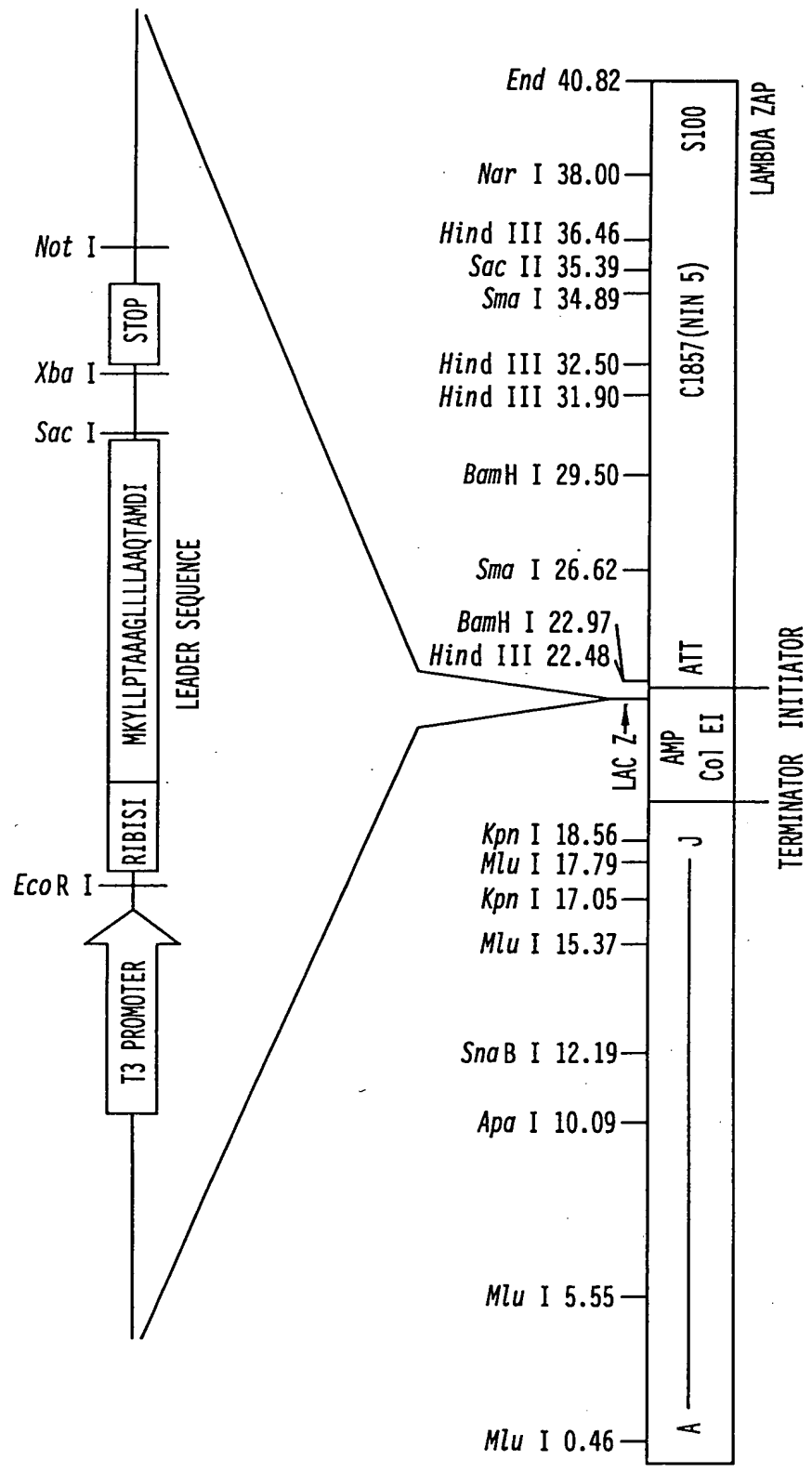




FIG. 10

ECOR I	SHINE-DALGARNO	MET
<u>TGAATTCTAAACTAGTCGCCAAGGAGACAGTCATAATGAAT</u>		
TCGAACTTAAGATTGATCAGCGGTTCCCTCTGTCAGTATTACTTTA		

LEADER SEQUENCE

ACCTATTGCCCTACGGCAGCCGCTGGATTGTTATTACTCGCTGCCCAACCAG
TGGATAACGGATGCCGTCGGCGACCTAACAAATAATGAGCGACGGTTGGTC

NCO I	SAC I	XBA I	Not I
<u>CCATGGCCGAGCTCGTCAGTTCTAGAGTTAAGCGGCCG</u>			
GGTACCGGCTCGAGCAGTCAAGATCTCAATTCCCGGCAGCT			

FIG. 11-1

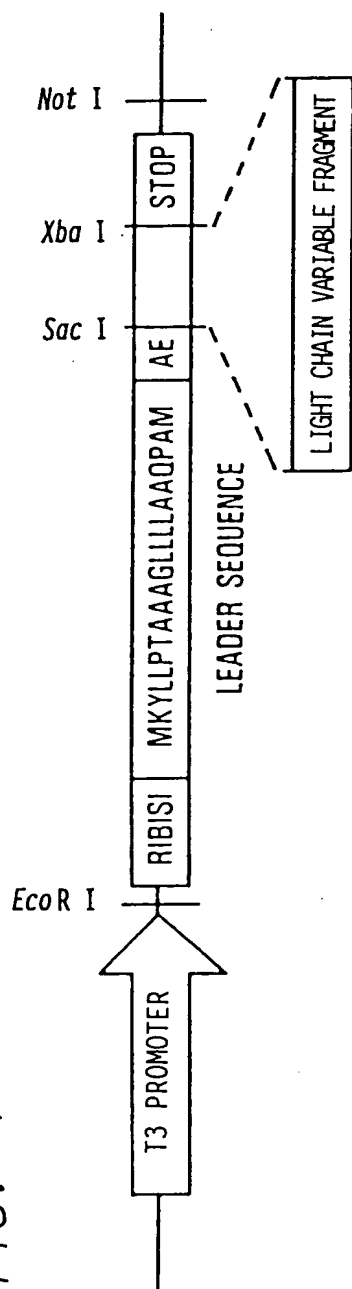
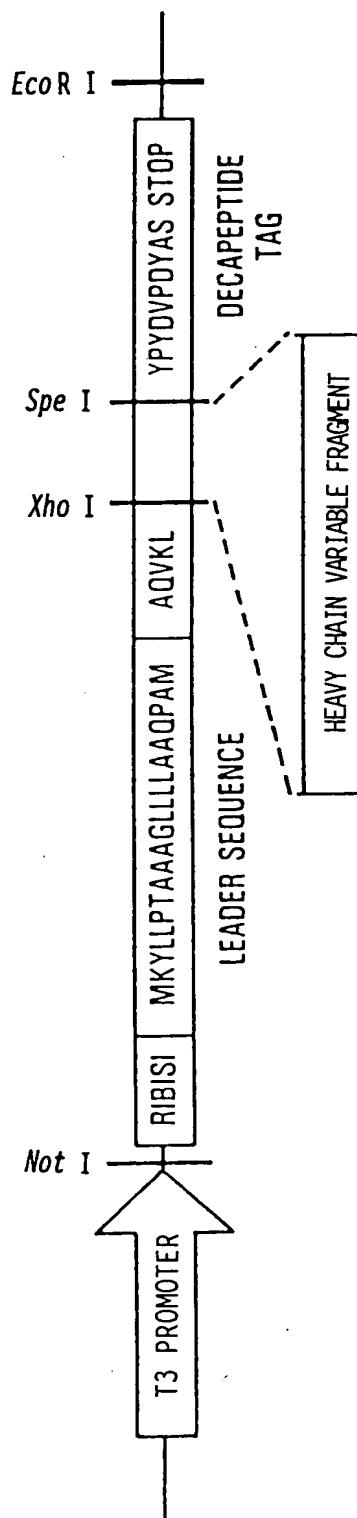
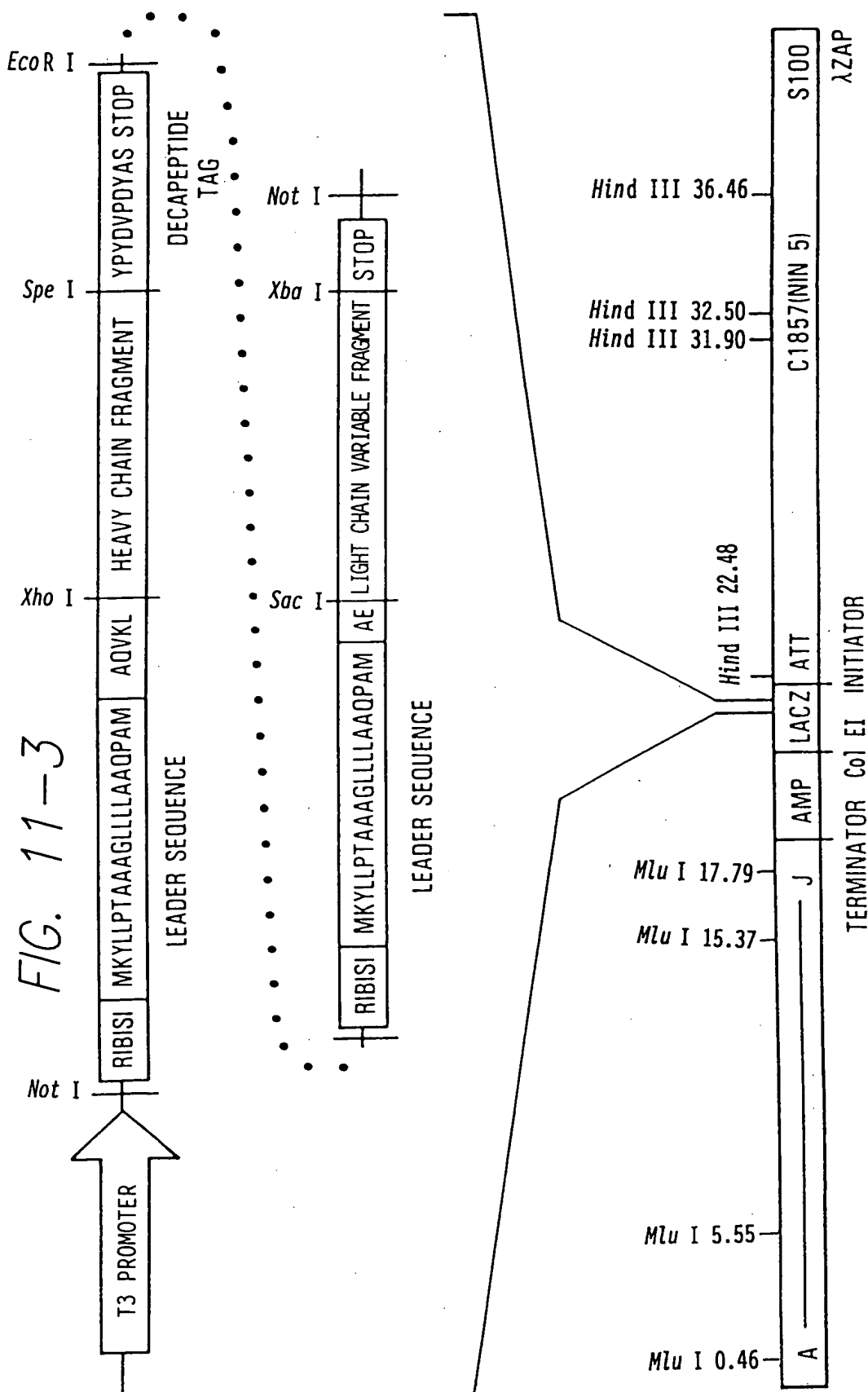


FIG. 11-2





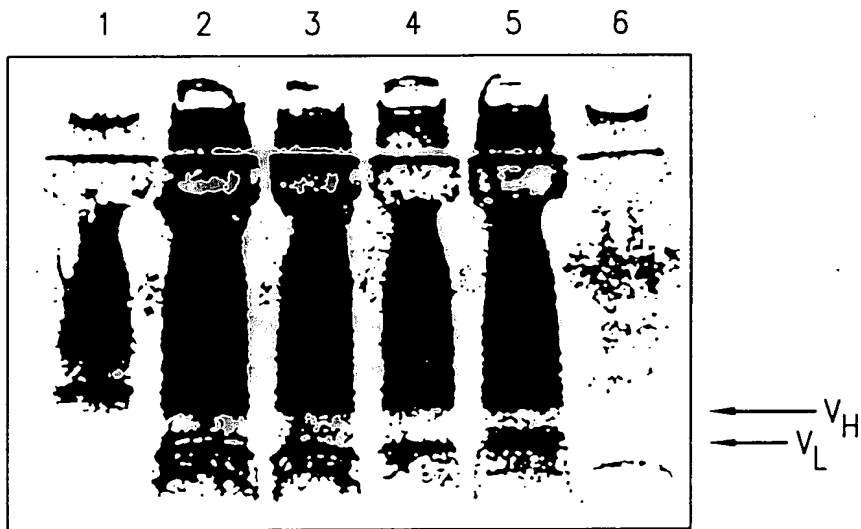
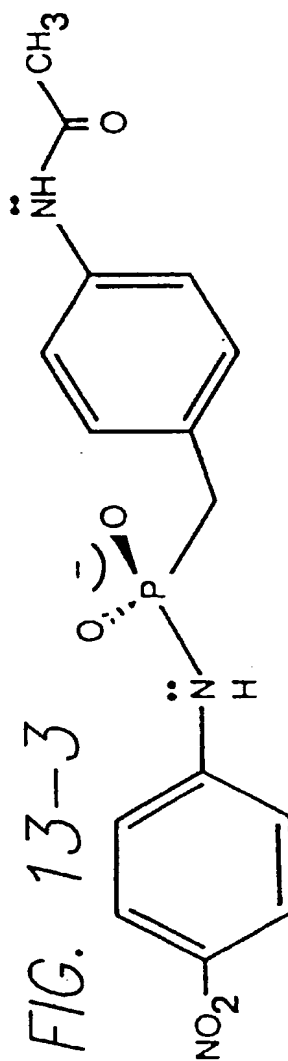
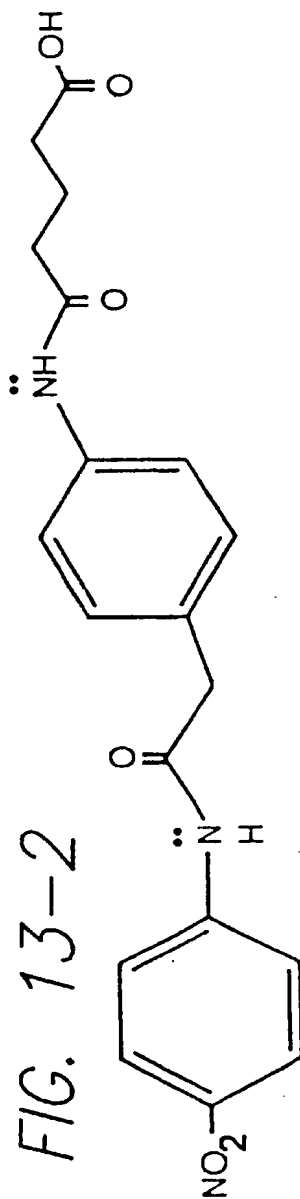
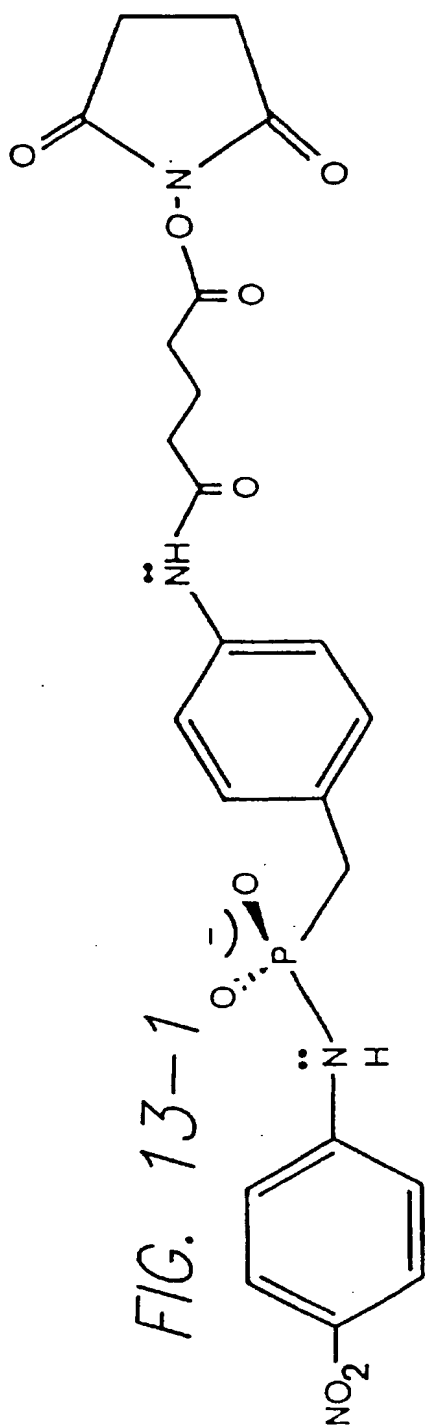


FIG. 12



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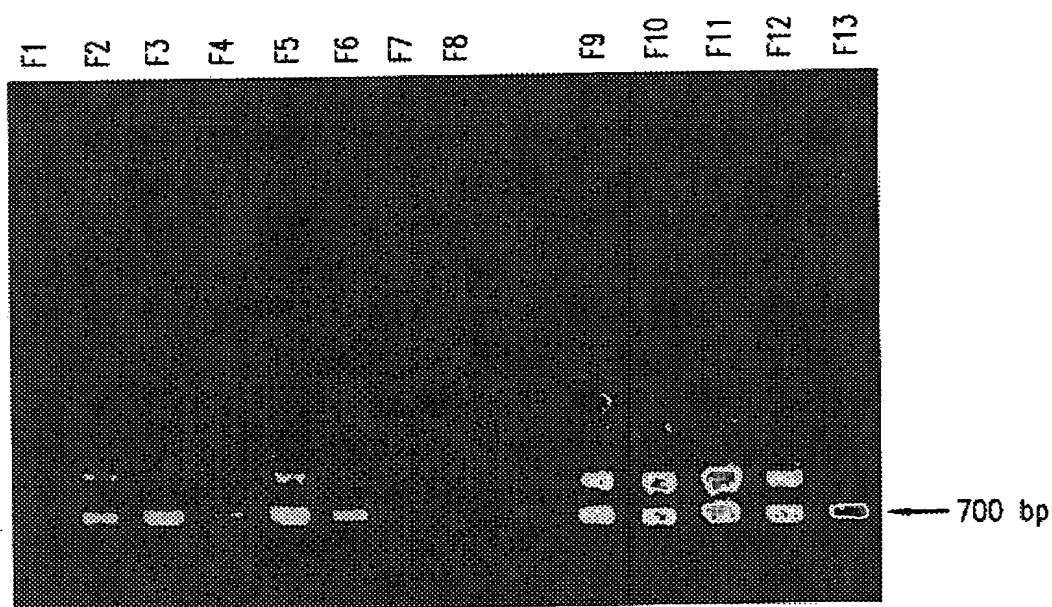
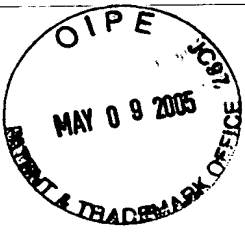


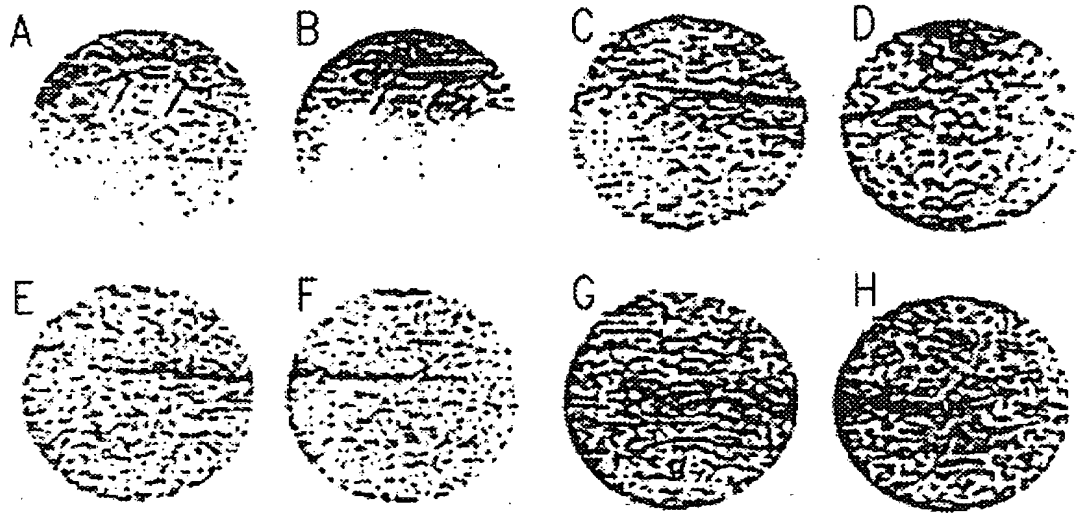
FIG. 14

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FIG. 15





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FIG. 16

